

STATE OF ALASKA
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF FORESTRY
NORTHERN REGION

TOK AREA

FOREST LAND USE PLAN

Porcupine Ridge Salvage

NC - 1092
ADL # 419255

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I. INTRODUCTION

A. Purpose

The purpose of this Forest Land Use Plan (FLUP) is to provide sufficient information for reviewers to ensure that the best interest of the State will be served by the Department of Natural Resources, Division of Forestry, Tok Area, offering this proposed timber sale. The sale area is within the 2004 burn area within which is an estimated 250 to 500 acres of harvestable timber. Within the sale area is a mosaic of timber stands of variable commercial value, the highest being firewood. This variability in stand conditions dictates that harvest contractors must be able to select individual areas that would make the salvage economically viable. This FLUP deals with site specific consideration of the State. The boundaries and precise volume of the sale may be refined if and when the sale developed. Site specific research has been completed on title considerations, land classifications, applicable land management plans, appropriate silvicultural techniques, regulatory and statutory requirements and physical conditions that apply to the proposed area. The sale design may be altered to mitigate potential conflicts. It is intended that this timber be offered for salvage using a number of negotiated and competitive salvage sales. It will be the responsibility of the Forester-In-Charge to ensure that any purchaser of this sale harvests timber per the sale design and sale contract provisions and adheres to Alaska Forest Resources and Practices Act (AFRPA) best management practices.

The public is invited to comment on any aspect of this proposed timber sale with regards to the Preliminary Finding and Decision (AS 38.05.035). Comments should be mailed to the Division of Forestry, PO Box 10, Tok, Alaska 99780, or by email to dnr.fortok@alaska.gov or hand delivered to the Tok Area Office a Milepost 123.9 Tok Cutoff. Comments must be received at the Division of Forestry no later than 9/23/2011 in order to be considered in the Final Decision of whether the sale will be held in whole or in part. To be eligible to appeal the final decision, a person must have provided written comment by 9/23/2011.

B. Five-Year Sale Schedule

The general area and timber type that this proposed sale occupies has been shown as a potential sale area in the current Five-Year Schedule of Timber Sales (FYSTS) for Fiscal Years 2009 - 2013 as required by AS 38.05.113. It has been listed in previous schedules.

C. Location

The proposed sale is located approximately 12 air miles to the northeast of the community of Tok along the west side of the Taylor at 12 mile. Primary access is by traveling east from Tok along the Alaska Highway approximately 11 miles, and then north along the Taylor Highway for approximately 12 miles, entering the Tanana Valley State Forest.

- a. Legal Description: All or parts of the following sections within the Porcupine Creek watershed located in Management Unit 13B of the Tanana Valley State Forest (TVSF), as shown on the Tanacross (B-4) Alaska Quadrangle
- b. Nearest Community/Miles/Direction: The community of Tok lies approximately 12 air miles to the southwest of the proposed harvest area.

Sections	Township	Range
17-19/24	19N	14/15E

- c. Municipality: None
- d. Native Region (if outside of Municipality): Doyon.
- e. Adjacent Land Owners: Tetlin Village Corporation and Doyon.

D. Title, Classification and Other Active or Pending Interests

The acquisition authority for the proposed sale area is 50-75-0078-GS-866. There are no title restrictions on the parcel. The proposed sale area is within Management Unit 13B of the TVSF. The primary land classification is Forestry in Unit 13B of the TVSF. Management intent is more specifically addressed in the Tanana Valley State Forest Management Plan (TVSFMP). There are no Title Restrictions on the harvest of timber in this management unit.

E. General Timber Sale Program Objectives

1. **Develop the State's Renewable Resources.** To follow the DNR's constitutional mandate to encourage the development of the State's renewable resources, making them available for maximum use consistent with the public interest. Sustain and promote a healthy, long-term timber industry in the State, through providing a secure source of timber for harvest that produces raw materials for local manufacturing plants when practical while protecting other resources such as fish and wildlife.
2. **Improve the State's Economy.** To help the State's economy by providing royalties to the State in the form of stumpage receipts, as well as contributions to local economies through wages, purchases, and jobs and business.
3. **Improve Forest Health.** To improve forest growth and vigor by harvesting and replacing mature stands and stands with declining vigor with new healthy regenerating stands, while protecting and maintaining other resource values. The actions authorized under this decision will follow the constitutional mandate of sustained yield and shall adhere to multiple use management as described in the Tanana Basin Area Plan.
4. **Improve Wildlife Habitat.** Meet the wildlife management goals for the Tanana Basin Area Plan that provide for the economic development of other natural resources while protecting habitat needs of wildlife resources necessary to maintain or enhance public use and economic benefits.

II. LEGAL AUTHORITY

This Division of Forestry is taking this action under the authority of AS 38.05.035 (e) (Best Interest Finding); AS 38.05.110-120 (Alaska Land Act Statutes); 11 AAC 71 (Timber Sale Statutes and Regulations); AS 41.17.010-.950 and 11 AAC 95 (Forest Resources and Practices Statutes and Regulations).

III. ADMINISTRATIVE RECORD

The case file ADL # 419255 and the Tanana Basin Area Plan constitute the administrative record for this finding.

IV. DISCUSSION OF ISSUES

A. Physical Characteristic of the Sale Area

1. **Topography.** The elevation of this area ranges from 1900' where Porcupine Creek crosses the Taylor Highway in the southern portion of the management unit to 3500' approximately two miles north-northeast of there. The topography is generally moderate to steep slopes.
2. **Soils.** Biotite gneiss and schist compose the upper elevations of the sale area west of the Taylor highway while lake deposits (fine sand and silt) Eolian deposits (sand and silt) and alluvium and colluviums (sand and silt) make up the southern and western lower slopes and drainages. In conclusion shallow mineral soil on top of alluvial primarily sand and gravel dominates the soil.
3. **Water bodies.** Porcupine Creek runs along the Taylor highway and is fed by several small mostly intermittent drainages in the salvage area. Porcupine Creek is out of the Sale Area to the south. Best management practices as defined by the AFRPA will be adhered to in order to maintain water quality.
4. **Stand Conditions.** Porcupine Ridge consists of burned white spruce that is densely stocked and intensely burned. There is a high percentage of wind throw and areas of jackstraw timber making volume estimates difficult. It is expected that much spruce will be clear of bark or the bark will come off during falling and skidding operations. The timber may also be attacked by wood borers and other insects. Recoverable volume may be low due to wood deterioration, blowdown, and access and logging costs. Due to the before mentioned items, cord wood is expected to be the highest value product produced from this salvage. Black spruce areas with permafrost are found on most north slopes and valley bottoms. Birch and white spruce sites are found on slightly higher and better drained soils interspersed between the black spruce types.

B. Historic and Current Land Use

This area sustains a high level of hunting pressure in the fall. A few trap lines are active in the general area. As the area becomes more accessible, recreational use such as snow machining, cross-country skiing, dog mushing and weekend drives may increase. Snow machine use of the Taylor Highway is high and is the site of annual snow machine races. Log hauling during this time is a safety concern and will be handled accordingly to minimize conflicts.

C. Wildlife Habitat

This area provides prime habitat for black bears, furbearers and moose. Regeneration from the 2004 fire is expected to be good, as was evidenced following the previous

fire. White spruce, birch, aspen, alder and willow have regenerated. Continued soil disturbance will enhance new and established vegetative growth. This site will be harvested using ground-based skidding equipment that effectively contributes to crushing existing brush and disturbs the existing moss and duff layers. This disturbance is favorable for new seedbed availability and enhances new vegetative growth in the spring. The Division of Forestry, with cooperation from the Alaska Department of Fish and Game, may mark specific snags in the sale units to remain standing for wildlife habitat unless they pose an immediate safety risk during harvest and transport operations. Guidelines established in the Region III Riparian Standards will be followed. Drainage in various sub-watersheds is not expected to create adverse impacts to water quality or fish habitat due to the filtering effect of the riparian areas, which are composed of lowland bog and black spruce forest in many instances.

D. Fisheries and Water Quality No defined surface waters are present in the area of Sale Area. FRPA Best management practices will be implemented to ensure water quality standards in all water courses.

E. Subsistence

The proposed sale of timber is anticipated to have no deleterious effects on subsistence activities. Subsistence activities of fishing, trapping, hunting and gathering berries and other non timber forest products may occur on state owned lands. Increase access may in fact increase subsistence opportunities in the area previously not realized.

F. Recreation and Tourism

Recreation use in the area consists mainly of motorized vehicle travel (atv/orv and snow machine). Hunting , camping, trapping and general trail use occur and as access opens up, activities such as berry picking, hiking, cross country skiing, are anticipated to increase. Currently access for snow machines riding to Dawson has been complicated with permits to cross Tetlin lands. This project has large support for the route to provide access from Tok up the Taylor Highway.

G. Scenic Resources

Only the very first portions of the road from this sale will be visible from the Taylor Highway. None of the harvesting is expected to be visible from the Taylor Highway. Due to the fact that this is a salvage operation and that only pockets of merchantable timber exist, it is not expected that the scenic value of the area will be compromised. The removal of burnt standing timber and the site prep that will accelerate re-growth will enhance the scenic corridor of the Taylor Highway.

H. Cultural Resources

There are no known archaeological sites according to the Alaska Office of History and Archaeology with in the FLUP boundaries. The Sale area is a long distance from the Tanana River. Secondly this is a salvage sale in a highly intensive fire burned area.

During the course of activities associated with this timber sale, cultural and/or paleontological resources may be inadvertently discovered. Should such a discovery

occur, the site shall be protected from any disturbance, and DOF will contact the State Historic Preservation Office (SHPO) immediately so that compliance with state laws governing cultural resources may begin.

If burials or human remains are found, all land clearing activities that would disturb the burial or remains shall cease and measures will be taken to protect it in place. The Office of History and Archaeology and a law enforcement officer will be notified immediately to ensure that proper procedures for dealing with human remains are followed.

I. Sustained Yield and Allowable Cut

The Alaska Forest Resources and Practices Act (AS 41.17.060 (c)) and Article VIII Sec. 4 of the State Constitution require that the State forest land be managed on a sustained yield basis. Sustained yield is defined in the Alaska Forest Resources and Practices Act (AS 41.17.950(25)):

“Sustained Yield” means the achievement and maintenance in perpetuity of a high level annual or regular periodic output of the various renewable resources of forest land and water without significant impairment of the productivity of the land and water, but does not require that timber be harvested in a non-declining yield basis over a rotation period.

The Annual Allowable Cut (AAC) is the amount that can be harvested from forest land managed for forestry purposes in a year under sustained yield management. The AAC in the Tok Area is based on a ten-year average as determined by the Parsons and Associates, Inc. report titled “Tanana State Forestry Lands Periodic Sustained Yield Analysis”. This sale complies with sustained yield/allowable cut principles outlined in the Tok Area Five-Year Schedule of Timber Sales for FY 2009-2013. The AAC for the Tok Management Area is approximately 3,539 acres. The AAC will not be exceeded for this proposed sale.

J. Silvicultural Prescription

1. **Stand Silviculture.** This area was burned in the Taylor Complex Fire in 2004. Logging will help to scarify some of the soils in an effort to promote regeneration. Data and research on regeneration and growth characteristics of this species are compiled within the Resource Analysis of the Tanana Valley State Forest (TVSF) Management Plan. The harvest and reforestation systems available in the Interior Alaska are also reviewed and listed in the Resource Analysis. The results of the public and agency discussions for harvest and reforestation are discussed in the TVSF Management Plan. Silvicultural harvest systems that facilitate even-aged (natural) management are generally preferred. They mimic the ecological impact of wildfire and other disturbances and result in the greatest increased in site productivity. Even-aged management is normally accomplished through clear-cut, patch cuts and heavy partial cuts (such as seed tree or shelter wood systems) which open up the site to maximum solar gain. This results in the greatest production of both young hardwood that is important to wildlife and the spruce understory valuable years later as timber. Even-aged management techniques are utilized to provide young, vigorously growing

stands in juxtaposition to older, undisturbed stands. Such placement of harvest units can optimize natural seedling and the edge effect.

2. **Specific Management Objectives.** Attain a more natural diversity of forest age classes in the general area. Protect and where possible, enhance important wildlife and fish habitat. Utilized the current commercial value of this timber stand before spruce defect increases and inflicts further damage. Maintain or enhance the current level of recreational use of the area. Protect residual young trees from logging damage which will allow them to release once the overstory is removed. Allow appropriate snags (wildlife trees) to be left on site. Maintain the birch component and stimulate willow growth in the openings. Return the site to a productive, naturally even-aged, diverse mixed species stand at an equal or greater basal area than currently exist. It is reasonable to assume that these objectives will be achieved under the recommended prescription although some supplemental planting may be required. The remaining birch component will provide cover and produce seed until the budworm infestation subsides and adjacent and residual spruce once again provide seed. White spruce occupies 95% and birch 5% of the stand. It is reasonable to assume that these objectives will be realized under the recommended prescription with some supplemental planting of white spruce if necessary.
3. **Harvest Methods.** Commercial logging in the area typically consists of feller bunchers and hand felling. The cut trees are then skidded with track vehicles or rubber tired skidders to landings where logs can be processed into decks and loaded on to log trucks. Winter logging will occur in the areas containing permafrost and where the soils are fine and highly susceptible to erosion. Most of the ground in the sale area due to the slope and lack of permafrost will be logged outside of winter.
4. **Regeneration.** With scarification of the soil white spruce regenerate successfully from natural seed dispersal. With a combination of seasonal logging caused soil disturbances and with the intensity of the 2004 burn, excellent regeneration is to be expected. Logging equipment crushing the aspen without destroying the root systems will encourage coppice regeneration and increase the stems per acre. Due care should be exercised by the loggers to avoid areas that already have any successful regeneration. Areas that fall below recommended stocking levels, 450 stems/acre, will be hand planted.

K. Transportation

Currently the access to the sale area would be to drive East from Tok along the Alaska Highway to the Taylor Highway (Tetlin Junction) and then head North about twelve miles.

Proposed access in the Sale Area:

Silvicultural roads that access the state forest resources that are designated for forest management are proposed to be classified as all season, temporary, and winter only. Access will be a combination of an all season type 2 forest road, existing logging roads from nearby previous sales, and temporary roads that would need to be put to bed after the sale is closed out. Appendix F of the TVSFMP contains the descriptions of the road standards. The goal of this road system is to have a mainline road with shorter spur roads to access the harvest areas, thereby reducing the total number of roads in the area. These spur roads would then be closed after harvesting has been completed. Access routes will be maintained to the standards set out in the AFRPA by the contractors during the sales. Drainage structures will be installed prior to

break-up and run-off to minimize erosion on all roads that will be constructed on sloping terrain. Stream crossings will be constructed in compliance with the regulations of the AFRPA, though no stream crossings have been identified. Prior to sale activity the contractor will notify the Forester-in-Charge and the Department of Transportation and advise them of plans for the plowing snow on the Taylor Highway.

R-O-W Easement Needed: The timber sale contract will serve as the authorization for the access route through state lands. An easement will be applied for the mainline road from the Taylor Highway to the Old Alaska Hwy. This road will be designed for low maintenance with the location on the ridge, using sweeps and cross drains. This road is designed for a all season travel with long term access to the Tanana Valley State Forest as primary purpose. This road does not cross any wet lands or streams.

Driveway Permit Needed: For the construction of access roads from the Taylor Highway driveway permits will be required by the Department of Transportation. Access will be needed to salvage timber on the west side of the Taylor Highway. Access routes will be maintained to the standards set out in the AFRPA.

L. Erosion

There are two soil erosion concerns: surface erosion and mass wasting, neither are concerns for this sale. Harvesting will not be allowed on excessively steep ground. To avoid erosion, debris will be placed back onto skid trails and water bars installed if necessary. Harvesting will be suspended during periods of thawing soil conditions to assure that soil disturbance is not excessive. The location of skid trails will optimize skidding distances and provide for adequate landing areas. The other aspect of erosion (mass wasting and debris avalanches) normally occurs on slopes of more than 70 percent.

M. Mining

There are no known state mining claims in the timber sale area.

N. Materials

Little or no rock materials will be required for the construction of access roads, as minimal overburden covering fractured rock is expected. Rock will be excavated with the dozer from ditch line to construct the road prism.

O. Economics

In addition to generating royalties to the State's general fund from stumpage, the proposed sale will create economic benefits to Tok and to other locations in Alaska. The business community will receive direct economic benefits from providing support services for the operators through sales of fuel, food, housing, medical and miscellaneous supplies. The sale is expected to benefit the local economy by providing jobs. It will have a positive impact on local employment by generating significant man-hours of work associated with the harvest and transportation of wood products from this sale. This road and sell will be a great aid to supply high quality wood energy to the local market and throughout eastern interior. The cost of

firewood is considerably less expensive than fuel oil at current prices. Additionally the public will benefit from access to additional personal use fuelwood areas.

V. MARKET CONDITIONS

The local demand for firewood in the Tok area is estimated to be 3,000 cords per year. This is roughly equivalent to 1.5 MMBF of lumber. Additional markets in the Copper River and the Fairbanks area exist for high quality fire killed firewood. The current cost of home heating oil is \$4.03/gallon and propane is \$3.40/gallon (Aug. 10th, 2011) and these prices are expected to rise this winter. This puts a high demand on fuel wood as most Tok residents have dual heating systems and use wood heat to help offset the higher oil heating costs.

VI. ALTERNATIVE ACTIONS

There are 4 possible alternatives to consider for this sale. A discussion of each of the four alternatives follows:

1. To continue the sale(s) as proposed.

This alternative meets the objectives of the Five-Year Schedule of Timber Sales and DNR'S constitutional mandate and the legislative intent for the Tanana Valley State Forest. It also meets the silvicultural objective of improving forest vigor, provides for a value-added end product and creates additional jobs in Alaska due to the combination of road building, logging, and trucking. This alternative also complies with the management objectives of the Tanana Basin Area Plan for Unit 4J4.

2. To modify the sale(s) by making them smaller or larger.

The proposed sale unit is a logical setting for typical commercial logging equipment in Interior Alaska. The size of the sale is designed to be large enough to be economically viable considering access development and mobilization costs and distance to processing facilities. Sales of this size are appropriately balanced to maintain other resource values as well as provide economic benefits to the Tanana Valley.

3. Defer the sale of this timber to a later date.

Deferring harvest to a later date would fail to meet many of the objectives of the sale program. One of the main objectives is to make State-owned timber consistently available to the timber industry.

4. Do not offer this timber for sale.

This alternative would result in not meeting any of the objectives outlined for this management action. Utilization of the forest resource would not be achieved. There would be no significant contribution to the State and local economies. This alternative would delay the management objectives planned for the area, deny making a source of raw materials available to the local wood products industry, and would delay the harvest of mature trees, prior to the onset of disease or insect infestation. Decay in infected mature spruce trees results in the loss of economic value.

VII. PRELIMINARY FINDING AND DECISION

It is anticipated that the effects of logging will be positive, both biologically and economically. The salvage of dead wood will be in the best interest of the State as substantial value is lost with the passage of time. Harvest will provide needed wood products to communities within the Upper Tanana Valley and is not expected to cause any significant negative environmental impact. Compliance with the Alaska Forest Practices and Resources Act and the Tanana Valley State Forest Management Plan will be adhered to. The purpose of this decision is to determine if the Department of Natural Resources, Division of Forestry, will make available timber located in 2004 Porcupine Creek Fire. After due consideration of all pertinent information and alternatives, the DNR has reached the following **Preliminary Decision: To offer the sale as proposed in Alternative 1.** In addition, the DNR finds that this preliminary decision satisfies the objectives as stated in this document and it is in the best interest of the State to proceed with this action.

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